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ABSTRACT

A project designed to promote the ego, moral, and conceptual development of student teachers is described. Research on the student teaching experience indicates that student teachers frequently experience conflicts concerning role expectations and identity formation and are exposed to new and challenging situations that involve genuinely responsible role taking. These findings suggest that the preservice education program provides an optional setting in which to intervene with a curriculum based on cognitive developmental constructs. The purpose of this study was to determine if a student teaching field experience that included the student observing and supervising peers, as well as seminars focusing on perspective taking and personal reflection, would promote personal developmental growth. Results suggest that a curriculum that balances role taking experiences and reflection in a systematic and deliberate way can promote both professional skills and psychological growth for preservice teachers. (JD)

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STUDENT-TEACHING SUPERVISION DESIGNED, IMPLEMENTED AND EVALUATED FROM A DEVELOPMENTAL PERSPECTIVE

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INTRODUCTION

The purpose of this study in "peer supervision" for student teachers was to design, implement and evaluate a curriculum to promote the ego, moral and conceptual development of student-teachers. Research in teacher education suggests the need for a formulated theory and coherent framework with in which to promote teacher development. Getzels and Jackson (1974) characterized the research on teacher personality, effectiveness and training as confusing, often of poor quality, largely a-theoretical and not showing clear and consistent development trends. Glaser (1976) has noted that one of the major difficulties has been the failure to link theory and practice. Shutes (1975) has suggested that the field of teacher education will continue to wander aimlessly until both theory and practice are connected to form a systematic framework. The present study is one attempt to bridge the gap between theory and practice and has applied cognitive-developmental theoretical constructs in the design and implementation of an intervention to promote the personal and professional growth of student-teachers.

RATIONALE

Research studies on the current impact of student-teaching programs suggest the need for more systematic and effective procedures for training prospective teachers. A variety of studies (Brock, 1972; Gewinner, 1966; Beck, 1974; Sorenson and Halpert, 1968; Matthews, 1967; Hoy, 1967; Iannaccone, 1963) indicated that negative changes in both attitudes and behaviors are observed when student-teachers are observed at the beginning and end of their student-teaching experience. Teachers in training typically become more authoritarian, more bureaucratic and less empathic toward children as a result of their student-teaching experience. These studies emphasize the importance of the actual teaching and supervision experience and suggest the need for programs which will provide student-teachers with the tools to become more "effective" teachers.

Research on teacher effectiveness suggests that teachers at higher developmental/conceptual levels function better in the classroom and may be more flexible, stress tolerant, adaptive, and better able to assume multiple perspectives than teachers at lower developmental/conceptual levels. In the cognitive-developmental view, the quality of how a person functions is essentially determined by the complexity of one's own cognitive structure. Piaget uses the phrase "schema" to describe the cognitive system that a person employs to make meaning from experience. O.J. Harvey employs the phrase "conceptual system," Hunt and Joyce define it as "conceptual level," while Kohlberg terms the process "Moral Judgment Stage," and Loevinger defines it as "Ego Development Stage." Although none of these concepts are synonymous, there is considerable theoretical overlap and all assume that an individual's actions are governed by an internal, mediating cognitive process. At higher stages the individual functions more complexly, abstractly, comprehensively and empathically with regard to teaching behavior. Harvey (1966) has defined four stages of conceptual functioning. Several studies have sought to establish the relationship between conceptual systems and teaching style.

Murphy and Brown (1970) related the specific characteristics and behaviors associated with the four conceptual systems to specific teaching behaviors. System I teachers viewed authority as the highest good, all questions as having one answer and thus discouraged divergent thinking, and reward conformity and rote learning. System 2 teachers were characterized by inconsistency and uncertainty in functioning, in a manner similar to System 1 teachers. System 3 teachers showed high affiliative needs, based on mutuality and group concensus rather than rules. Being more abstract in functioning than System 1 or 2 teachers, they encouraged more pupil self-expression. System 4 teachers regarded knowledge as tentative rather than absolute, were able to consider situations from other points of view, and, being cognitively complex themselves, tended to encourage more complex functioning in their students.

In two studies Hunt and Joyce (1967) found significant positive correlations between indices of reflective teaching (use of learner's frame of reference to plan, initiate and evaluate performance) and conceptual level. In another study, Harvey, et. al., (1966) rated kindergarten teachers and found that System 4 teachers scored highest on fostering exploration and lowest on dictatorialness, while the reverse was true for System 1 teachers. In a later study, Harvey, et. al., (1968) found that students of more abstract teachers tended to be less concrete, more involved, more active, more helpful, less nurturance seeking and higher achievers than their counterparts in classrooms with teachers who used more concrete belief systems. In summary, a number of studies suggest that teachers at higher and more complex stages of development appear as more effective in classrooms than their peers at lower stages. Assuming this to be true, the question then becomes: What curriculum or experiences for pre-service teachers can foster developmental growth? It would seem that the constructs of developmental theory may offer some insight into how to structure such an educational experience.

THEORY INTO PRACTICE

The theory of developmental psychology suggests that role-taking opportunities and experiences which create disequilibrium are instrumental in stimulating developmental growth. Kohlberg (1973) suggested that in order for the college student to reach principled moral thinking she/he needs a personal experience of choice involving questioning and commitment. Conditions which facilitate movement to higher stages of thinking include sustained responsibility for the welfare of others and the experience of moral choice combined with reflection and integration of experiences. The student-teaching process can be a personal experience which involves role-taking, genuine responsibility, exposure to new and challenging situations and decisions regarding choice of a career. Typically these challenges and conflicts occur in the context of a practicum/seminar format in which student-teachers have practical

field experiences and meet in weekly seminars to reflect on these experiences. The nature of the student-teaching experience (which provides opportunities for role-taking and frequent conflicts in the classroom) suggests a natural setting in which to intervene with a developmental curriculum to facilitate the psychological growth of the prospective teacher.

The importance of disequilibrium as a condition for development was posited by Piaget and further elucidated in relation to cognitive-developmental theory by Turiel. Turiel (1973) stated that moral stage change is stimulated by experiences of disequilibrium and that increased conflict is a condition for development. He defines disequilibrium as a state in which the inconsistencies of an existing stage are perceived. That is, the individual's existing structure is inadequate to deal with the events encountered and the heightened state of disequilibrium (manifested in conflict, contradiction and inconsistencies) could lead to compensatory activity that leads to reorganization of thought. Through a process of rejection and construction the logic of the existing stage is rejected and a new stage is created. Studies of student-teachers indicate that they are frequently confronted with problems in the classroom that challenge their ways of thinking and in so doing may create the conditions for stimulating moral development. The major personal/professional concerns of student-teachers involved such questions as role-conflict in becoming a teacher (Mosher, 1972; Brock, 1972; Sitton, 1972; Prokop, 1971; Corrigan, 1968; Savannah, 1972); personal effectiveness or efficiency in managing classroom learning experiences (Goldwin, 1974; Cooley, 1972; Beck, 1974; Codera, 1971; Sorenson and Halpert, 1968; Travers, Rabinowitz and Nemovicher, 1952); and the problem of developing an "adult" identity toward greater humaneness, empathy to children, and responsiveness to a variety of individual differences (Iannaccone, 1963; Matthews, 1967; Gewinner, 1968; Hoy, 1967; Osmon, 1959). A program designed to promote the student-teachers psychological development needs to help the student-teacher resolve in a systematic

fashion the personal as well as the professional issues confronting them in the classroom. In a sense, the process of personal and professional identity formation seem parallel. The development of a broad and comprehensive perspective vis-a-vis the nature of knowledge, the role of instruction and commitment to these perceptions seems analogous to the process of general development.

Role-taking experiences which are instrumental in facilitating development are an integral part of the student-teaching experience. Mead's (1934) theoretical formulations suggested that role-taking, the actual experience of more complex human functioning, was the key variable in social and moral development. By learning to take another's perspective both intellectually and emotionally, a human's general development would be stimulated. Kohlberg defines role-taking as the tendency to react to others like the self and to react to the self's behavior from the others point of view. Each of his moral stages represents successive modes of taking the role of others in social situations.

Thus, there were two related social roles used in this study of student-teachers. In the first instance, placing a pre-service teacher in an initial teaching activity is a more complex role than that of the usual undergraduate experience from the standpoint of responsibility. This new role could be considered a "stretching" experience (e.g., learning to master effective instructional techniques). In the second instance, as a peer supervisor, the role becomes even more complex. In this framework the beginning teacher is helped to perform the function of analyzing both his/her own as well as others' practice. There is a greater degree of complexity in this second role as a supervisor designed to promote learning from the teaching experience of self and others. In other words, the perspective is broadened from self to others, creating the possibility of more complex analysis in group peer supervision. Also, it was intended that a curriculum with the highly structured teaching of peer supervision techniques would help reduce the excessive egocentric focus associated with initial teaching experience.

In relation to both role-taking opportunities and conditions of conflict it is important to stress the importance of creating a supportive atmosphere for student-teachers. It is imperative that students are learning in an empathic environment. Too often the developmental concepts of "jamming" make it appear that engendering disequilibrium is just a cognitive-intellectual focus. This approach goes further than simply creating cognitive dissonance and includes providing high levels of support to encourage students to risk, to experience more complex role-taking, and to confront and resolve issues of deep personal significance.

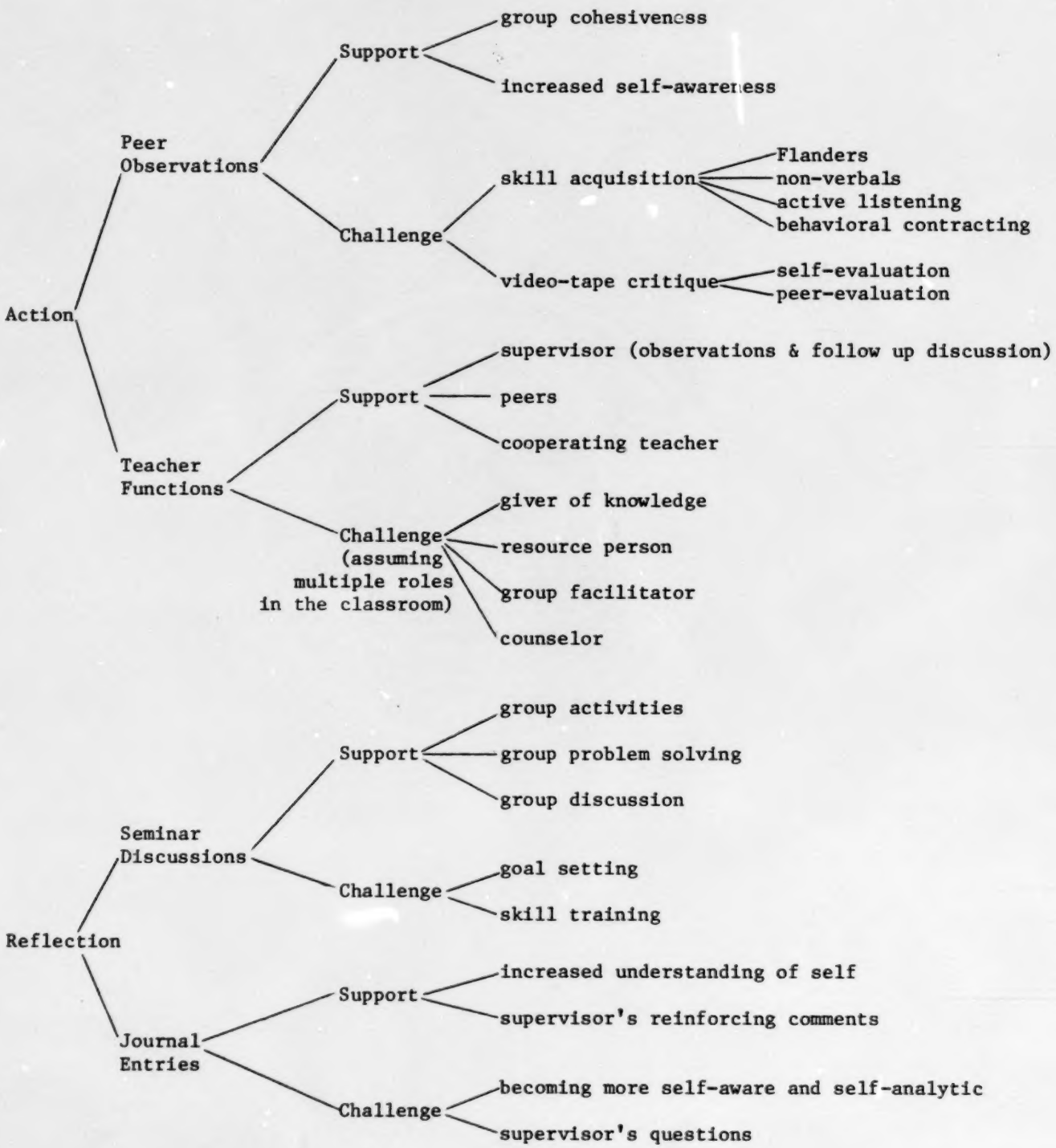
In summary, the role shift from college student to classroom teacher and peer supervisor was intended to create disequilibrium and to "stretch" students' thinking of themselves both personally and professionally. The role-taking was followed by intense reflection and support. Dewey (republished 1963) claims that an emotionally engaging experience must be followed by analysis of the experience if qualitative changes in developmental level are to occur. Developmentalists emphasize the role of the environment in creating disequilibrium and point out at the same time that too much disequilibrium can become overwhelming resulting in fixation at a stage rather than progression to the next stages (Maves, 1972). Thus it is imperative to emphasize that role-taking, reflection and support were all central elements of the curriculum.

THE CURRICULUM

The objectives of the curriculum in the affective domain for the experimental subjects were 1) the development of a more complex, differentiated and integrated understanding of self and others, 2) growth toward principled autonomy, and 3) the development of more complex ethical reasoning. One vehicle for facilitating development was a structured curriculum in "peer supervision" with opportunities for role-taking, empathic responding and personal reflection. The objectives of the course in the behavioral domain were that students should 1) acquire skills in

The Action Reflection Model of the Peer-Supervision Curriculum

Describing Student-Teachers' Activities



analyzing classroom interactions focusing on a) levels of responding, b) non-verbal behaviors, c) direct vs. indirect teaching and d) behavioral contracting, 2) acquire skills to give both positive and negative feedback to group members, and 3) acquire skills to facilitate a discussion after viewing video-tapes. Students were expected to use these skills on two counts. First, in their own classrooms students were encouraged to assume multiple roles as teacher, counselor, group facilitator, discussion leader and resource person. Second, in the student-teaching seminar students were to critique their own as well as their peers video-tapes of classroom interactions. Essentially, the specific skills taught in the seminar and used in "peer supervision," when practiced in the classroom were useful tools for facilitative teaching and were at the same time a means of promoting the student-teachers' psychological development.

In learning to analyze classroom interactions through a variety of frameworks, students became increasingly aware of the complex and often diverse roles which a teacher must assume in order to teach effectively. At the same time as the students became better able to identify and differentiate effective and ineffective teacher responses, they became better self-evaluators. The increased self-awareness and insight combined with behavioral components of the curriculum (goal setting, analyzing video-tapes, behavioral contracting) provided the student-teachers with the tools for making behavioral changes and encouraged them to view the situations from a variety of perspectives. Similarly, in addition to learning observation techniques and micro-teaching elements designed to improve their own classroom performance, the role of peer supervisor increased their perspective on the teaching process and helped them to develop skills in supervision. By developing the peer supervision role, the beginning teachers could develop more effective teaching strategies by attempting to teach these strategies to their peers. Further, developmental theory suggests that effective skill learning in these areas (self and other evaluations, active listening, empathic responding) provided a means whereby the individual

begins to experience the world differently, views things from a variety of perspectives, moves toward higher levels of empathy and toward greater cognitive complexity. The student-teachers were placed in a variety of roles where success demanded that they take the perspective of others and may use this knowledge to guide their behavior.

DESIGN AND METHODOLOGY

The subjects were undergraduates in student teaching from the English education program of a large public university. There were three in-tact supervision groups available during the fall and winter quarters. The subjects had an equal chance of assignment to any of the three groups (two experimental and one comparison). The experimental groups (Fall term N = 8, Winter term N = 15) were assigned to the author. The comparison group (Fall term N = 7) was supervised by another staff professor in the program. The experimental groups attended "peer supervision" seminars which were designed to facilitate developmental growth. The comparison group attended regular student-teaching seminars. All three groups were assigned randomly to local student teaching centers for their field experience.

This study used a series of formal and informal measures to assess developmental change and skill acquisition. Since no single tool or scoring approach was adequate to cover the multi-dimensions of structural growth, the study administered a variety of pre and post measures. The formal measures, administered to both the experimental and comparison groups, included the Defining Issues Test (Rest) as an estimate of ethical development, the Sentence Completion Test (Loevinger) as an estimate of personal development and the Internal-External Locus of Control Scale (Rotter) as an estimate of the individual's perception of the relationship between behavior and the events which follow. This combination of measures allowed for a finer focus on the changes that did occur.

THE RESULTS

Evaluation of this curriculum followed a pretest-posttest non-equivalent comparison group design and employed a formative model of evaluation. Assessment of the main effects of the study were estimated from pre to posttest changes on the Loevinger Sentence Completion Form as an estimate of personal development, the Rest Defining Issues Test, as a measure of ethical development and the Rotter Internal-External Locus of Control Scale as an estimate of locus of control. These instruments were used as measures of the dependent variable, developmental stage level. The journals and behavioral evaluations were used as process measures.

A correlated t analysis of the Loevinger data revealed significant differences pre to post-testing among the experimental group subjects ($p < .001$). Table 1 indicates the experimental group mean was 6.63 at pretesting and 7.34 at post-testing. Inspection of individual scores indicated that 17 of the 23 subjects in the experimental group showed positive stage change, 5 subjects showed no stage change and one subject showed stage change in a negative direction. Sixteen of the 17 subjects that showed positive stage change moved up one stage. Of these subjects 8 moved from the self-conscious (3/4 transition) stage to the conscientious stage 4; 7 moved from the conscientious stage 4 to the individualistic (transition) stage 4/5; and one moved from the individualistic stage 4/5 to the autonomous stage 5 of ego-development. Seventy-four percent of the subjects showed positive stage movement and 94% of the stage movement was to a developmental level one stage higher The average amount of stage change of the entire experimental group was .74 or approximately a 3/4 stage shift. The comparison group Loevinger data indicated no change between pre and posttest means and consequently no significant change.

The 3/4 subject is characterized by conformity to external rules, preoccupation with appearance and social acceptability, concern with belonging, helping and superficial niceness and a cognitive style reflecting conceptual simplicity and use of stereotypes. The shift from stage 3/4 to 4 is from the conformist stage with little

Table 1

Estimates of Developmental Change

Ego Development: Loevinger Sentence Completion Test

Group		Pretest	Posttest	t	two-taile
Combined Experimental	$\bar{X}_1$	6.63	7.34	5.72	< .001
Group (N=23 (N_1=8 + N_2=15)	S.E.	.12	.48		
Comparison Group	$\bar{X}_2$	6.71	6.70	n.s.	
N = 7	S.E.	.36	.28		

Ego Stage

1	2	Δ	Δ/3	3	3/4	4	4/5	5	6
1	2	3	4	5	6	7	8	9	10

Interval Value

Ethical Development: Rest-Defining Issues Test*

Combined Experimental	34.61 1.76	37.17 1.63	2.26	< .05
Comparison Group	37.01 2.85	36.29 3.05	n.s.	

*(Amount of "principled" thinking.)

Locus of Control: Rotter*

Combined Experimental	10.36 .77	9.05 .82	2.03	< .055
Comparison Group	8.42 1.55	11.42 1.49	2.51	< .05

*(High scores = lack of psychological control.)

awareness of feelings toward greater self awareness, differentiation of feelings, self respect and inner directedness. The stage 4 individual is characterized by self-evaluated standards, long-term goals and ideals, and an interpersonal style which is intense, responsible and reflective of mutuality and a concern for cooperation and trust. The shift from the stage 4 to 4/5 is toward greater insight about self and the nature of life. The 4/5 individual recognizes conflict within himself, has a sense for growth and development, expresses greater cognitive complexity, and explores ideas at deeper and more complex levels. The 4/5 individual is better able to synthesize content and feeling and has a wider repertoire of coping behaviors than the stage 4 individual. The shift from stage 4/5 to 5 is characterized by an ability to cope with conflicting inner needs, respect for autonomy, increased conceptual complexity and greater toleration for ambiguity. The stage 5 individual accepts that all problems are not solvable and sees the self in the social context. The striving for achievement is replaced by a striving for self fulfillment.

The fact that 74% of the subjects showed positive stage change and that 94% of the upward movement was one stage higher at posttesting than at pretesting is consistent with the development concept that change is invariant and sequential in nature. It is also important to note that when change did occur the posttest scores were one stage higher than the pretest scores and that approximately half of the changers moved from 3/4 to 4 and the other half moved from 4 to 4/5 or 4/5 to 5. If posttest results had shown all subjects moving to the same stage, one might question whether a significant development change did occur or if perhaps students were simply coached to express themselves in a way which would sound as if it were higher stage thinking. In other words, the developmental order of the subgroups within the "E" group remained theoretically consistent during the change period.

It is also important to note that subjects were not taught developmental theory or any of the scoring systems as part of the intervention. The issue of whether or

not students' knowledge of the theory has influenced their test scores is not a concern in the analysis of these data. Since students were not exposed to the content of developmental theory, it is unlikely that knowledge of developmental concepts affected their test scores.

Since the Loevinger test purports to measure ego, the most basic "master trait" in developmental terms (Loevinger & Wessler, 1970), we may conclude that student-teaching programs (field teaching and intensive seminars) based on cognitive developmental constructs may result in promoting high levels of ego development in pre-service college of education students. The gains are particularly significant in light of the fact that the modal level for adults is 3/4 and only 3 of the 23 subjects posttested at stage 3/4.

A correlated t-test on the six dilemma version of the Defining Issues Test indicated that the experimental subjects increased in their use of principled moral reasoning ($p < .05$). Inspection of individual scores indicated that 17 of the 23 subjects increased in "principled thinking," 2 subjects' scores remained the same at pre and posttesting and 4 subjects showed small yet not statistically significant decreases in principled thinking. The overall results indicated that scores on amount of "principled thought" increased significantly from a mean pretest percentage score of 57.7 to a mean posttest percentage score of 62.0. The subjects demonstrated statistically significant increases in their ability to reason at high ethical and abstract levels on issues concerning genuine human dilemmas. The comparison group results indicated no significant change from pre to posttesting on the Defining Issues Test.

A correlated t-test on the Rotter Locus of Control Scale indicated that the experimental subjects shifted from an external to a more internal locus of control ($p < .055$). Fifteen of the 23 subjects' scores indicated a more internal locus of control at posttesting than at pretesting. Two of the subjects' pre and posttest scores indicated no change and 5 subjects indicated a more external locus of control

at posttesting than at pretesting. These results suggest that student-teachers who have positive student-teaching experiences and who have resolved the disequilibrium in a construction fashion develop a greater sense of power and control concerning their behaviors and the events that follow. The comparison group results indicated statistically significant change ($p < .05$) between pre and posttesting away from an internal locus of control toward a more external locus of control.

In addition to these main outcomes, other more unobtrusive indices such as an analysis of the student journal content, measures of recognition of higher order teaching skills and reflective listening (empathy) skills indicate that the developmental changes measured related consistently to other more behavioral assessments.

LIMITATIONS

There are significant limitations which must be acknowledged. This was a first study with a small sample. Replication is needed to validate the main effects on the experimental groups. Another limitation of this study concerns the rudimentary, experimental nature of available instruments as estimates of cognitive structural development. Since longitudinal data are currently being collected, validity of the developmental measures is largely concurrent or construct and not predictive. Since no single measure met all of the criteria for reliability and validity, it was necessary to employ a variety of measures which served as "checks and balances" and consequently minimized some of these measurement problems.

The third limitation of this study concerns the difficulty of effectively translating principles of cognitive developmental theory to educational practice. The literature on cognitive developmental educational processes has focused on developing rationale rather than on developing specific instructional strategies to facilitate developmental growth. There is also a need to know more about matching specific interventions to students at different levels of development.

A lack of sufficient knowledge concerning the actual process of change makes it difficult for the interventionist to develop specific strategies with precise qualitative or quantitative dimensions which will facilitate development. It appears necessary to continue to examine the educational processes and the developmental changes which do occur so that from our practice we might further refine our theory.

CONCLUSIONS

The study suggests that a curriculum which balances role-taking experiences and reflection in a systematic and deliberate way can promote both professional skills and psychological growth which may result in structural/developmental change for pre-service teachers. As noted, the work of Harvey, Hunt, Joyce, and others indicated that higher stage teachers who are more flexible, creative and adaptive themselves, will in turn create more effective learning environments which one may assume will encourage developmental growth of pupils. Teachers at more complex developmental levels perform the teaching act with greater comprehensiveness and empathy and their pupils evidence higher levels of thinking, self-exploration, cooperation and independence.

At the same time that this study provides a link between professional development and personal growth, it also provides a link between the training institution and the field practice. This study suggests that cognitive-developmental theoretical constructs can be successfully translated into educational practice to promote personal and professional growth of teachers. Up until this time the supervision component of teacher education programs has assumed a secondary and sometimes ineffective role. Results of this study suggest that a structured and systematic curriculum to facilitate personal and professional development under the specific conditions as delineated by this study can in fact promote significant gains in ego development during the student-teaching experience. It appeared that the role-taking opportunities students experienced as they assumed the role of "teachers'"

and "peer supervisors" in a supportive environment which encouraged reflection and integration of experiences promoted higher levels of ego development. As results of research and practice indicate that the student-teaching experience can impact student-teacher development, the process of supervision will assume a more vital and dynamic role in teacher education programs.

The study also has implications for developing an Instructional Model for promoting student-teacher development. One aspect of this study was the systematic use of theoretical models from which the instructional program was derived. It is crucial, however, to attend to the dynamics of challenge and support which were continually stressed in facilitating ego development. The instructor focused on simultaneously affirming and stimulating students as they examined themselves in new and challenging roles.

The study also suggests a framework different from competency based teacher education programs to promote student-teacher development. Rather than proceeding with an infinite list of skills for student-teachers to master we have developed more comprehensive categories of functioning that are connected theoretically to developmental stages. This seems to broaden the impact of teacher education programs to affect both the personal and professional development of prospective teachers and to consequently impact on a larger scale the social roles which the individual assumes in society. This study provides a more adequate conception of the goals of teacher education as well as a system of instruction to achieve those goals.

Finally, and perhaps most significantly, this study has implications for teacher educators. There is a need for colleges of education to train supervisors and teacher educators in both the theory and practice of cognitive-developmental constructs. Then we may begin to form a more adequate framework for systematically promoting teacher development.

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